

# Technical Assessment of Current DER Interconnection Experience

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Joint Distributed Power and Industrial DG  
Quarterly Program Review  
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# Mission/Objectives

- Obtain information on current technical experience with grid interconnection of DER
  - Customer Experience
  - Manufacturer Experience
  - Electricity Provider Experience
- Benchmark current issues surrounding DER interconnection technologies and experience

# Project Approach

- Interview electricity providers, equipment manufacturers and DER users/customers
- Maximize diversity
  - Customer types – industrial, commercial
  - Technologies – CHP, fuel cells, microturbines, PV
  - Project sizes - <100kW, 100kW – 1MW
  - Types of electricity providers – IOUs, rural, public
  - Geography – California, Hawaii, Midwest, Mid-Atlantic

# Project Diversity

	California	Hawaii	Midwest	Mid-Atlantic
<b>Utilities</b>	<ul style="list-style-type: none"> <li>• Seattle City Light</li> <li>• Portland Gas &amp; Electric</li> <li>• SMUD</li> </ul>	<ul style="list-style-type: none"> <li>• HELCO</li> <li>• HECO</li> </ul>	<ul style="list-style-type: none"> <li>• DTE</li> <li>• Comm. Edison</li> <li>• NiSource</li> <li>• TVA</li> </ul>	<ul style="list-style-type: none"> <li>• GPU</li> <li>• PEPCO</li> </ul>
<b>Consumers</b>	<ul style="list-style-type: none"> <li>• RealEnergy</li> <li>• Intel</li> </ul>	<ul style="list-style-type: none"> <li>• Mauna Lani</li> </ul>	<ul style="list-style-type: none"> <li>• City of Chicago</li> </ul>	<ul style="list-style-type: none"> <li>• Verizon</li> <li>• Dorm. Authority of NY</li> </ul>
<b>Manu-facturers</b>	<ul style="list-style-type: none"> <li>• Solar Turbines</li> </ul>	<ul style="list-style-type: none"> <li>• Power Light</li> </ul>	<ul style="list-style-type: none"> <li>• Hess Microgen</li> </ul>	<ul style="list-style-type: none"> <li>• UTC Fuel Cells</li> <li>• Ingersoll-Rand</li> </ul>

# Project Timeline

- June 2002
  - Kickoff
- July – September 2002:
  - Assemble diverse list of contacts
  - Conduct interviews
- September – October 2002
  - Analyze results and determine major themes from interviews
  - Prepare report detailing findings

# Areas of Interest

- What type of interconnection system is being used (hardware/software)
- What obstacles have been faced during interconnection? How were they overcome?
- What types of problems are being experienced during DER operation?
- What type of power monitoring is occurring? Is operational data being collected?
- Concentrate on issues related to IEEE P1547
  - performance, operation, safety, maintenance, testing of interconnection

# Potential Outcomes

- Knowledge base available for future DER interconnection projects
- Provide information for consideration during revisions of IEEE P1547
- Assist in establishing qualitative program metrics
- Determine potential for expanded research